



July 30, 2012

2012-LTR-1030

Ron Skinnerland
Department of Ecology
3100 Port of Benton Blvd.
Richland, WA 99354

Re: Questions about Treated Acid

Dear Mr. Skinnerland:

When we talked on May 30th, 2012, you asked about two separate matters with respect to processing of wastes at our Richland facility. This letter provides detail for both matters.

Waste Slab Tank

On 03/01/2012, we received a large, used tank from CHPRC that was being managed as TRUM waste for disposal. We received the tank under manifest No. 008855185JJK and waste profile No. 2012-HTRU-0004. The waste profile indicated that the tank had been rinsed and verified to be empty, but remained contaminated with Transuranic (TRU) radiation and waste codes D006, D007, D008, D018, D019, D043, F002, F003, and FOOS. The tank was wrapped in several layers of plastic sheeting. We intended to cut the tank into smaller pieces that would fit into containers for return shipment to Hanford as a Waste Isolation Pilot Project (WIPP) certifiable waste form. Due to the WIPP Land Withdrawal Act, Public Law 102-579 the waste did not require treatment to meet LDR but rather only repackaging into a WIPP certifiable waste form. The spill occurred while we were in the process of moving the tank from storage in Building 13 to room SB-09 Temporary Containment Structure (TCS) for repackaging as described in our hazardous waste facility permit Attachment PP Process Engineering Description for Stabilization Building page 11:

Repackaging, inspection, sampling, decontamination and grouting activities may also take place in this room utilizing various container transport equipment, temporary containment system(s) (TCS) and processing equipment, as required.

Radiological fugitive emissions are regulated pursuant to WAC 246-247 and to mitigate radiological airborne emissions a TCS may be used for processing items which cannot physically be managed in other areas of the MWF. Typically, TCSs are constructed of PVC piping to serve as the support structure and then by attaching poly-sheeting to create the floor, walls and roof. All TCS structures in this room will be regulated by a portable HEPA ventilation unit, if necessary, for proper air flow with the exhaust flow from the TCS connected to the process ventilation system to ensure exhausting air is in accordance with Washington State Department of Health (WDOH) operating air permits. The criteria to use a TCS are largely driven by the radiological characteristics of the waste and the physical size of the waste.

On March 8, 2012, a forklift that was moving the tank pierced the plastic wrapping. Approximately one cup of liquid spilled from a tear in the plastic wrapping the tank, to the floor in Building 13 room SB-07. A pH test strip indicated the pH of the liquid was approximately neutral. The operators in the area wiped the spill up (the spilled clean up materials later were disposed of with the tank pieces).

After the spill was wiped up, we surveyed the floor for radiological contamination. The survey indicated a small section of the floor was contaminated. We unsuccessfully attempted to remove the radiological contamination by wiping the floor again. In order to remove the radiological contamination, the floor was scabbled to approximately 1/4" depth and repaired with NSP122 Industrial Floor Coating and NSP125 Epoxy Resurfacer which is the manufacturer's recommended repair system. The repair was made consistent with Conditions III.D.1 and II.D.7 and Attachment EE of our hazardous waste facility permit and documented in our facility operating record.

At the time of this spill, we reviewed our hazardous waste facility contingency plan and determined that the incident did not trigger plan implementation. The spill involved a very small volume of material, waste entirely contained within building SB-07, did not require response from any off-site emergency response agency or service and did not pose any threat to human health or the environment. In this regard, we note that the floor is coated with epoxy material to contain spills of this type. The building is maintained under negative air with the exhaust controlled through carbon filtration and HEPA filters.

Acid Neutralization

On March 23, 2012 (two weeks after the spill described above), we received three containers of transuranic (TRU) wastes from CHPRC. These containers were delivered to our facility under manifests Nos. 008855209JJK and 008855184JJM and waste profile 2012-HTRU-005. The containers were identified with Nos. MW12000077, MW12000078 and MW12000079. The containers contained debris (such as rags) that had been soaked in acid and smaller containers of partially treated acid. The waste was characterized with multiple waste codes including D002 corrosive hazardous waste and TRU radioactive waste. We determined to treat the waste to deactivate the corrosivity characteristic through neutralization.

On April 4, 2012, we moved the three containers from storage to a temporary containment structure (TCS) located in building 13 room SB-09 at our facility for neutralization and repackaging. The TCS was constructed in room SB-09 as described in our hazardous waste facility permit Attachment PP Process Engineering Description for Stabilization Building page 11.

The waste was removed from the containers in the TCS within a liquid containment system. There, we added a lime slurry to the waste to neutralize it.

Because the waste included debris, we held the treated waste in the containment structure for several days (until April 12, 2012) to ensure that all the debris was thoroughly soaked. We periodically tested the pH of the slurry to confirm that it remained above 2.0 as it mixed with acid in the debris. When we were satisfied that the debris was fully saturated with the lime slurry and neutralized, we added absorbent to soak up the free liquid. Then we packaged the treated waste into new containers for final disposal. The waste was returned to Hanford CWC on May 31, 2012

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under manifest Nos. 008855194 JJK and 008855195 JJK and shipment Nos. MWS12-056 and MWS12-057.

No spills, damage to our equipment or structures, or other incidents occurred in the course of managing this waste. The waste was unpackaged, treated and repackaged without any problems.

We also want to be clear that treatment of this waste did not include evaporation. Evaporation would have done nothing to increase the pH; in fact evaporation would have lowered the pH of the waste as received. No heat was applied to the process, but during the course of neutralization there may have been some evaporative losses of water vapor from the slurry. Any such incidental evaporation would have been managed in our facility ventilation systems. Air from the TCS was treated in a carbon filtration system and through a HEPA filter, all as described in our facility permit.

For clarification both waste streams identified are managed as TRU-Mixed Waste debris by the Department of Energy. They are sent to PFNW for repackaging into a WIPP certifiable waste form. Due to the radiological hazards associated with this waste stream it is managed with utmost regard for worker safety and secondly to ensure no release to the environment.

I want to emphasize that there is no relationship between the spill that occurred on March 8, 2012 and the management of the acid wastes that were not received at our facility until two weeks after the spill. I'm clarifying this point because there appears to be some confusion about a possible relationship when we spoke last. I believe we supplied all the information requested by the Ecology inspectors. Please let me know if you need more information about either of these matters.

[REDACTED]
[REDACTED]

Perma-Fix Northwest Richland, Inc.

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Fact Sheet for "Acid Drum" Treatment:

Profile	2012-HTRU-0005		2012-HTRU-0005	
Generator	CHPRC for DOE		CHPRC for DOE	
Receipt	MWR12-034		MWR12-035	
Receipt Manifest	008855209JJK		008855184JJK	
Received	03/23/12		03/23/12	
Containers	PFNWID	Generator ID	PFNWID	Generator ID
	MW12000077	036493-7	MW12000079	0059303
	MW12000078	036493-9		
Description	These containers of TRU waste were received on 03/23/2012 under approved profile 2012-HTRU-0005 and placed in storage. On 04/04/12 receipt MWR12-034 was moved to a temporary containment structure (TCS) located in SB-09 for repackaging and neutralization of liquids with a pH less than 2.0. The acid was processed by adding lime slurry and allowing it to cure. The acid was not spilled and was not treated by evaporation. Processing was completed on 04/12/12. The waste was shipped as MWS12-056 and MWS12-057 to CHPRC on 5/31/12 under manifest 008855194 JJK and 008855195 JJK.			
Background info	<p>These TRU containers were subject to the LDR variance for disposal at Waste Isolation Pilot Plant (WIPP).</p> <p>The processing of this waste did not result in damage or require repair of the secondary containment system or epoxy coating.</p> <p>The use of a Temporary Containment System (TCS) in SB-09 is described in Permit Attachment PP Process Engineering Description for Stabilization Building page 11 as follows:</p> <p><i>Repackaging, inspection, sampling, decontamination and grouting activities may also take place in this room utilizing various container transport equipment, temporary containment system(s) (TCS) and processing equipment, as required.</i></p> <p><i>Radiological fugitive emissions are regulated pursuant to WAC 246-247 and to mitigate radiological airborne emissions a TCS may be use for processing items which cannot physically managed in other areas of the MWF. Typically, TCSs are constructed of PVC piping to serve as the support structure and then by attaching poly-sheeting to create the floor, walls and roof All TCS structures in this room will be regulated by a portable HEPA ventilation unit, if necessary, for proper air flow with the exhaust flow from the TCS connected to the process ventilation system to ensure exhausting air is in accordance with Washington State Department of Health (WDOH) operating air permits. The criteria to use a TCS are largely driven by the radiological characteristics of the waste and the physical size of the waste.</i></p>			

Fact Sheet for Spill/Containment Repair:

Profile	2012-HTRU-0004
Receipt	MWR12-025
Manifest	008855 1 85JJK
Container	MW12000104
Description	<p>The spill which required the floor of SB-07 to be scabbled occurred on 03/08/2012. The waste being moved was a large slab tank wrapped in 4 layers of plastic and was identified as barcode MW12000104. The profile indicates that the tank had been rinsed and verified to be empty prior to shipment to PFNW-R. As the waste was being moved at 0745 am, the forklift punctured the outside plastic wrapping and approximately 1 cup of liquid spilled on to the floor in SB-07. A ph test strip indicated the pH of the liquid was approximately neutral. The operators in the area wiped the spill up. The spilled material was disposed of with the slab tank. After wiping the spill up, the area was surveyed for radiological contamination. The survey indicated a small section of the floor was contaminated. PFNW-R unsuccessfully attempted to remove the radiological contamination by wiping the area down. In order to remove the radiological contamination, the floor was scabbled to approximately 1/4" depth and repaired with NSP122 Industrial Floor Coating and NSP125 Epoxy Resurfacer which is the manufacturers recommended repair system.</p>
Background info	<p>The spill occurred in SB-07 on 03/08/2012 which is prior to the "acid drums" being received on 03/23/2012.</p> <p>A review of the contingency plan was done at the time of the spill and it was determined that it did not trigger implementation of the contingency plan because it was a small spill and did not require response from an off-site agency and was not a release posing a threat to human health or the environment and therefore did not require reporting to off-site agencies.</p> <p>SB-07 is located inside the Mixed Waste Facility, has epoxy coated secondary containment and a negative pressure ventilation system.</p> <p>Permit Condition III.D. 1 .f requires that integrity be maintained for areas identified in III.A. I and repaired in accordance with II.D.7 and Attachment EE. Attachment EE requires that repairs to the storage area containment system be in accordance with design specifications (the manufacturers recommended repair system for the NSP I00 epoxy coating system was used) and documented in the facility operating record.</p>